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*Arabes, dans leurs travaux sur ces matières, font preuve vis-à-vis de leurs devanciers grecs.*

Délai fixé: 31 octobre, 1889. Langues: latin, français, anglais, allemand, suédois, danois. Adresser les Mémoires (portant une devise et accompagnés d'un billet caheté muni de la même devise, et renfermant le nom, la profession, et l'adresse de l'Auteur) au Secrétaire de l'Académie, M. H.-G. Zeuthen professeur à l'Université de Copenhague.



### TEIXEIRA'S INFINITESIMAL ANALYSIS.\*

One fourth of this work is occupied by an introduction containing two chapters: one on imaginaries, including their geometrical interpretation; the other on the general theory of functions. The remainder of the work, including about 250 pages, is devoted exclusively to the differential calculus. The method employed is that of infinitesimals, founded upon the method of limits. The fundamental principles are in general clearly stated, and nearly every page gives evidence that the author is well acquainted with the latest results. The work closes with chapters on functions defined by series, singularities of functions, and functions of imaginary variables.

[O. S.]

\*CURSO DE ANALYSE INFINITESIMAL por F. Gomes Teixeira. Porto: Typographia Occidental.



### SOLUTIONS OF EXERCISES.

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A BROKEN line  $ABCDE$ , . . . etc., is drawn in a plane, having all its angles equal and the concavity always on the same side. Each of the successive parts  $BC$ ,  $CD$ ,  $DE$ , etc., is half as long as the preceding. The length and direction of  $AB$  are given and the common angle. Required the direction and distance from  $A$  of the point to which the end of the line approaches, when the construction as described is continued indefinitely.

[Yale Problems.]

GENERALIZATION.

Let  $a$  be the vector  $AB$ ;  $m$  the ratio of the length of any line to the length